

SERVICE MANUAL

INTEGRATED AMPLIFIER

SANSUI AU-G11X



CAUTION

1. Parts identified by the Δ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

•SPECIFICATIONS

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.008% total harmonic distortion.

25 watts per channel into 8 ohms.

Load impedance..... 8 ohms

Total harmonic distortion

..... less than 0.008% at or below rated min. RMS power output

Intermodulation distortion

(60 Hz: 7 kHz = 4:1 SMPTE method)

..... less than 0.008% at rated power output

Frequency response (at 1 watt)

Overall (from AUX, CD, TUNER, TAPE PLAY-1, 2)

..... 10 Hz to 180,000 Hz, +0 dB
-3.0 dB

RIAA curve deviation (PHONO, 20 Hz to 20 kHz)

..... +0.2 dB, -0.5 dB

Input sensitivity and impedance (at 1 kHz)

PHONO 2.5 mV/47 kohms

(Max. input capability; 150 mV at 1 kHz, less than 0.005% total harmonic distortion)

CD, AUX, TUNER..... 150 mV/47 kohms

TAPE PLAY-1, 2 150 mV/47 kohms

Signal to noise ratio (short-circuit, A-network)

PHONO 83 dB

CD, AUX, TUNER..... 100 dB

TAPE PLAY-1, 2 100 dB

Controls and Filter

BASS +8 dB, -8 dB at 50 Hz

TREBLE +8 dB, -6 dB at 10 kHz

LOUDNESS +9 dB at 50 Hz

+5 dB at 10 kHz
(VOLUME: -30 dB position)

Power requirements

Power voltage..... 120/220/240V (50/60 Hz)

For U.S.A. & Canada

..... 120V (60 Hz)

Power consumption.... 100 watts Rated

140 watts Maximum

Dimensions 430 mm (16-15/16") W

76 mm (3") H

277 mm (10-15/16") D

Weight 5.2 kg (11.7 lbs) net

6.0 kg (13.2 lbs) packed

* Design and specifications subject to changes without notice for improvements.

* Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.

Sansui

SANSUI ELECTRIC CO., LTD.

CAUTION

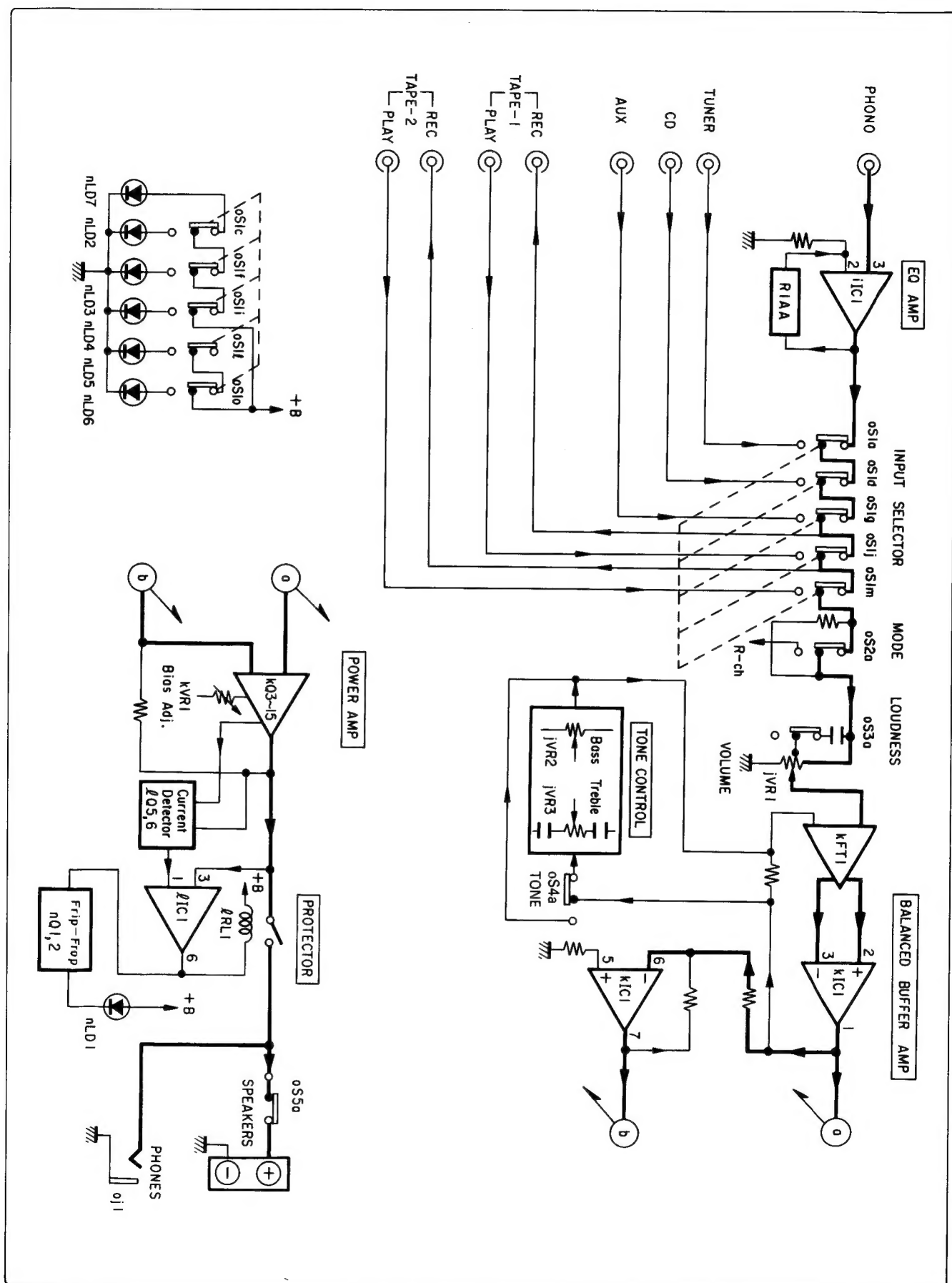
1. The symbols, UL, CSA, SA, BS, UK, EU, AS and XX (EXPORT) on the parts list and the schematic diagram mean followings respectively.

UL.....	Manufactured for U.S.A market. (Underwriters Laboratories approved model.)
CSA	Manufactured for Canadian market.
SA.....	Manufactured for South African market.
BS, UK	Manufactured for United Kingdom market.
EU	Manufactured for European market.
AS.....	Manufactured for Australian market.
XX (EXPORT)	Standard Version.
NON MARK	Common Parts.
2. Some printed circuit boards are not supplied as the assembled. To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.
3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.
4. Abbreviations in this service manual are as follows.

•Abbreviations List

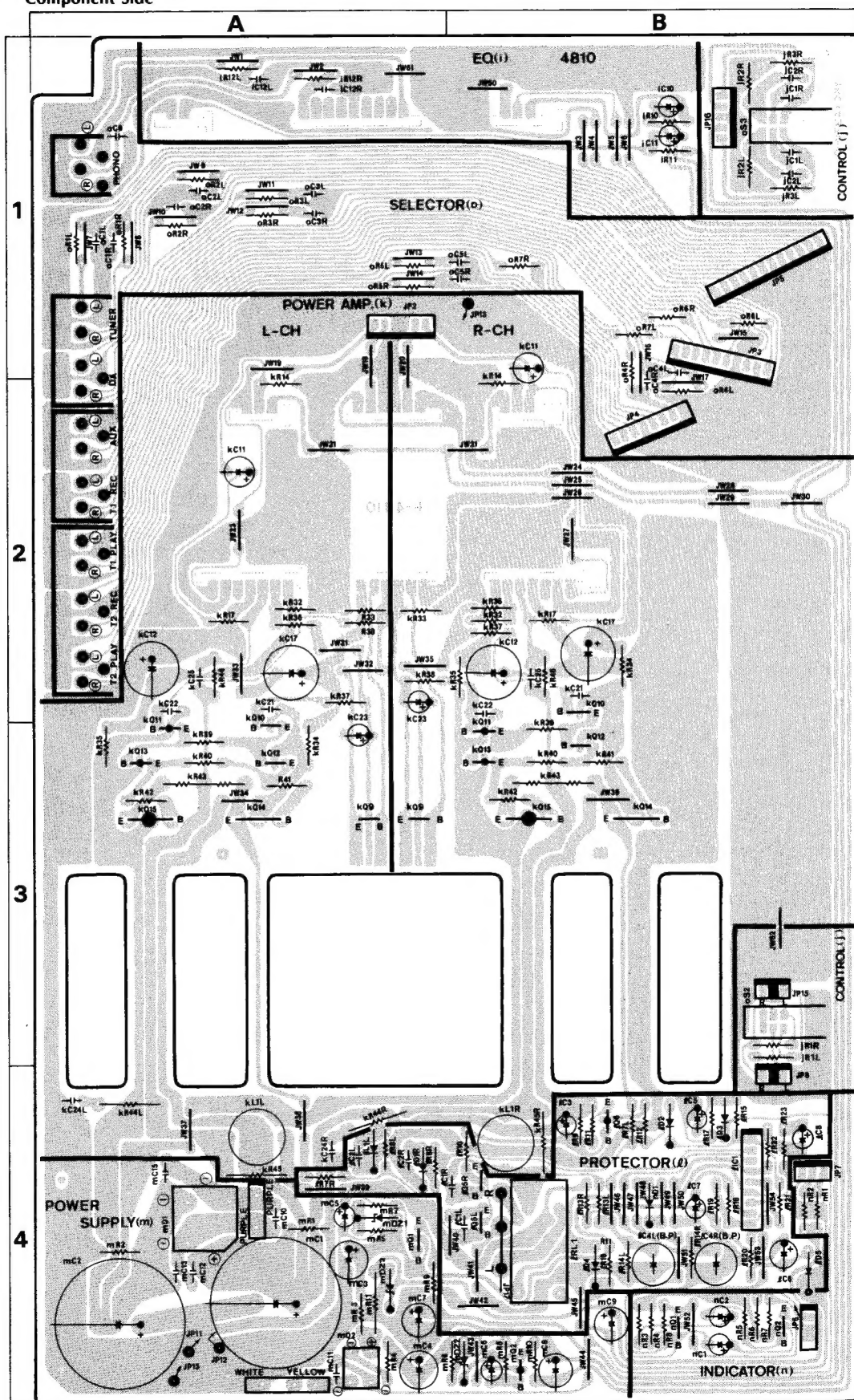
C.R.	: Carbon Resistor	E.B.L.	: Low Leak Bi-Polar
S.R.	: Solid Resistor		Electrolytic Capacitor
Ce.R.	: Cement Resistor	Ta.C.	: Tantalum Capacitor
M.R.	: Metal Film Resistor	F.C.	: Film Capacitor
F.R.	: Fusing Resistor	M.P.	: Metalized Paper Capacitor
N.I.R.	: Non-Inflammable Resistor	P.C.	: Polystyrene Capacitor
A.R.	: Array Resistor	G.C.	: Gimmic Capacitor
C.C.	: Ceramic Capacitor	A.C.	: Array Capacitor
C.T.	: Ceramic Capacitor,	V.R.	: Variable Resistor
	Temperature Compensation	S.V.R.	: Semi Variable Resistor
E.C.	: Electrolytic Capacitor	SW.	: Switch
E.L.	: Low Leak Electrolytic	Chip R.	: Chip Resistor
	Capacitor	Chip C.	: Chip Capacitor
E.B.	: Bi-Polar Electrolytic		
	Capacitor		

1. BLOCK DIAGRAM



2. PARTS LOCATION & PARTS LIST

2-1. F-4810 Power Amp. & Power Supply Board (Stock No. 00845501) Component Side



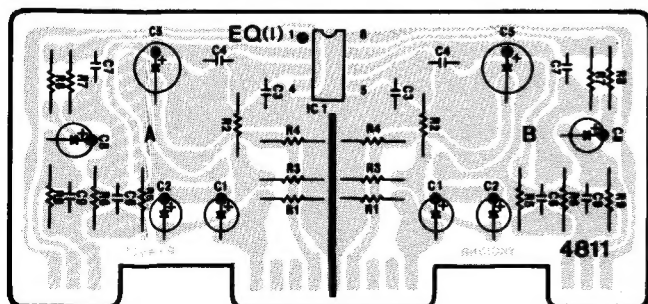
Parts List < F-4810 >

Parts No.	Stock No.	Description
△IR10	46227800	10Ω 1/2W N.I.R.
△IR11	46227800	10Ω 1/2W N.I.R.
jC1	46696000	0.022μF 50V F.C.
•Transistor		
△kQ9	03067401	2SC1845
kQ10	48061801	2SC3244
kQ11	48064001	2SA1284
kQ12	07206401	2SD600K
kQ13	07206301	2SB631K
△kQ14	03068701	2SC2577
△kQ15	03011801	2SA1102
△kR34	46228600	47Ω 1/2W N.I.R.
△kR35	46228600	47Ω 1/2W N.I.R.
△kR39	46230300	1.2kΩ 1/2W N.I.R.
△kR40	46229100	120Ω 1/2W N.I.R.
△kR41	46227400	4.7Ω 1/2W N.I.R.
△kR42	46227400	4.7Ω 1/2W N.I.R.
△kR43	46644300	0.22Ω × 2 3W Ce.R.
△kR44	46247700	4.7Ω 1W N.I.R.
△kR45	46247300	2.2Ω 1W N.I.R.
kC24	46697600	0.1μF 50V F.C.
KL1	46851900 or 46851901	0.8μH Inductor 0.82μH Inductor
•Transistor		
IQ5	46581701	2SC1845
IQ6	46581601	2SA992
•IC		
IIC1	46207600	TA7317P
•Diode		
ID1	03117600 or 46086000	1S2473T77 1S1588TP-3
ID2	03117600 or 46086000	1S2473T77 1S1588TP-3
ID3	03117600 or 46086000	1S2473T77 1S1588TP-3
ID4	03117700	10E-2
ID5	03111600 or 03111800	1S2473 1S1588
IC1	46283300	0.022μF 50V F.C.
IC4	08460200	220μF 6.3V E.B.
IRL1	46254900	Relay, Protector

Parts No.	Stock No.	Description
•Transistor		
△mQ1	48061801	2SC3244
△mQ2	48064001	2SA1284
•Diode		
△mD1	46194700	RB402-LFF
△mD2	46273600	DBB10-B
•Zener Diode		
mDZ1	46115400 or 46115500	05Z20-Y 05Z20-Z
mDZ2	46115400 or 46115500	05Z20-Y 05Z20-Z
mDZ3	46113700 or 46113800	05Z11-Z 05Z12-X
△mR3	46228600	47Ω 1/2W N.I.R.
△mR4	46228600	47Ω 1/2W N.I.R.
△mR9	46228800	68Ω 1/2W N.I.R.
△mR10	46228800	68Ω 1/2W N.I.R.
△mR11	46624900	330Ω 2W N.I.R.
mC1	46606500	4700μF 50V E.C.
mC2	46606500	4700μF 50V E.C.
mC10	08680400	0.01μF 500V C.C.
mC11	08680400	0.01μF 500V C.C.
•Transistor		
nQ1	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785
nQ2	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785
•Diode		
nD1	03117600 or 46086000	1S2473T77 1S1588TP-3
oS2	46361000	Push SW., MODE
oS3	46361000	Push SW., LOUDNESS
oZ1	46438100	2P Terminal Board, PHONO
oZ2	46363800	4P Terminal Board, TUNER, DA
oZ3	46363800	4P Terminal Board, AUX, REC-1
oZ4	46363900	6P Terminal Board, PLAY-1, PLAY-2, REC-2

2-2. F-4811 Equalizer Amp. Board (Stock No. 00845601)

Component Side

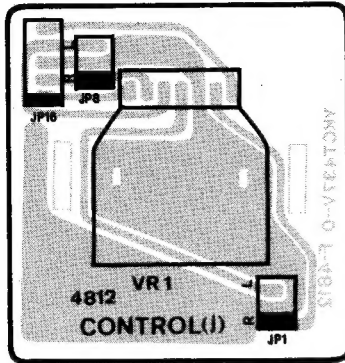


Parts List

Parts No.	Stock No.	Description
•IC		
iIC1	46638700	M5220P
iC3	46654000	220pF 100V F.C.
iC4	46653200	100pF 100V F.C.
iC6	46697000	0.056μF 50V F.C.
iC7	46695700	0.016μF 50V F.C.
iC9	46282400	3300pF 50V F.C.
iC13	46703300	0.1μF 50V F.C.

2-3. F-4812 VOLUME Control Board

Component Side

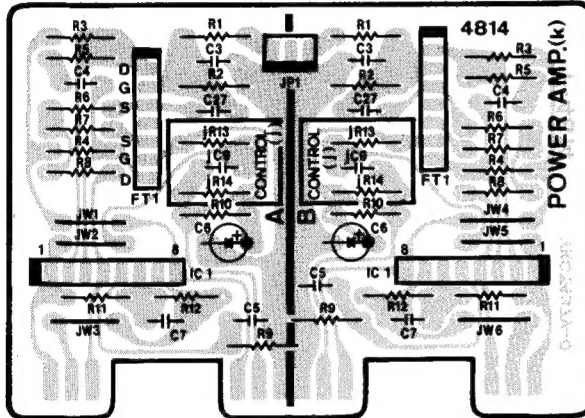


Parts List

Parts No.	Stock No.	Description
jVR1	46555900	150k Ω \times 2 V.R., VOLUME

2-4. F-4814 Balanced Buffer Amp. Board (Stock No. 00845901)

Component Side

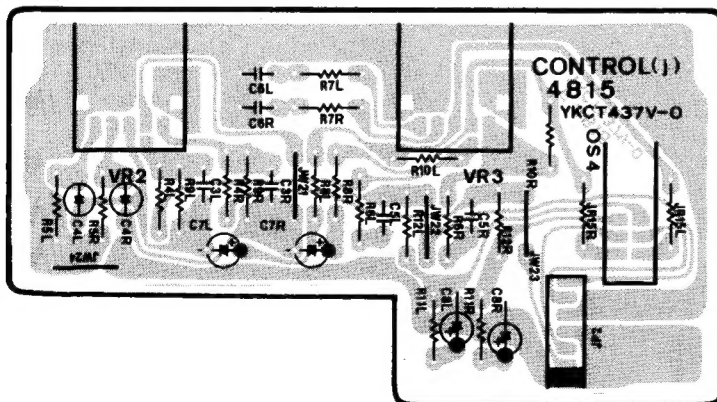


Parts List

Parts No.	Stock No.	Description
•FET		
kFT1	07110000 or 07110001	μ PA68H-L μ PA68H-M
•IC		
kIC1	46288800	M5220L
kC3	46653200	100pF 100V F.C.
kC4	46655200	680pF 100V F.C.
kC5	46283300	0.022 μ F 50V F.C.

2-5. F-4815 Tone Control Board

Component Side



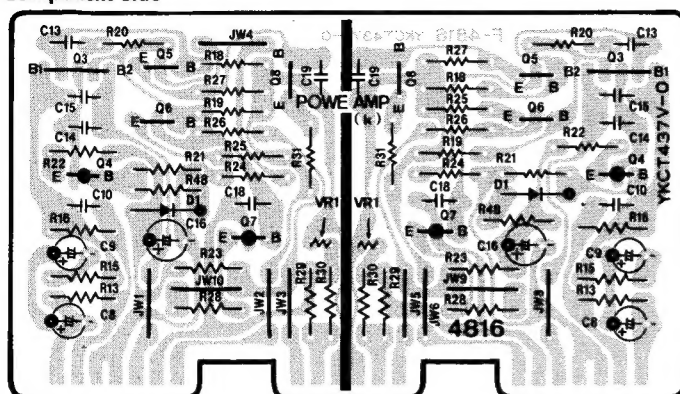
Parts List

Parts No.	Stock No.	Description
jC3	46697300	0.075 μ F 50V F.C.
jC4	46936900	0.15 μ F 50V F.C.
jC5	46695500	0.013 μ F 50V F.C.
jC6	46283500	0.033 μ F 50V F.C.
jC7	08452000	4.7 μ F 50V E.B.

Parts No.	Stock No.	Description
jVR2	48149400	50k Ω (C) \times 2 V.R., BA SS
jVR3	48149400	50k Ω (C) \times 2 V.R., TR EBLE
oS4	46365500	Push SW., TONE

2-6. F-4816 Driver Amp. Board (Stock No. 00846101)

Component Side



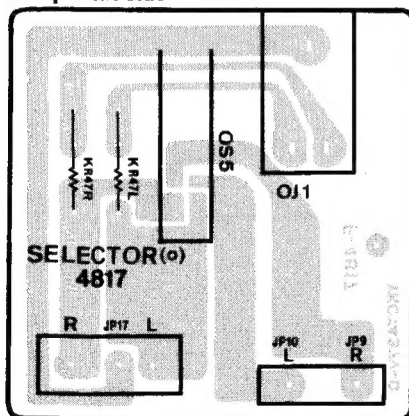
Parts List

Parts No.	Stock No.	Description
• Transistor		
kQ3	03602901	2SA798
kQ4	46392001	2SA1175
kQ5	07208701	2SC2705
kQ6	07208701	2SC2705
kQ7	46728201	2SA1145
	or 48112901	2SA949
kQ8	46728301	2SC2705
	or 48113001	2SC2229

Parts No.	Stock No.	Description
• Diode		
kD1	03117600	1S2473T77
	or 46086000	1S1588TP-3
ΔkR25	46229800	470Ω 1/2W N.I.R.
ΔkR26	46229800	470Ω 1/2W N.I.R.
ΔkR27	46229800	470Ω 1/2W N.I.R.
ΔkR28	46228700	56Ω 1/2W N.I.R.
ΔkR31	46228700	56Ω 1/2W N.I.R.
kVR1	46840500	470Ω(B) S.V.R., Bias Adj.

2-7. F-4817 SPEAKERS SW. & PHONES Jack Board

Component Side

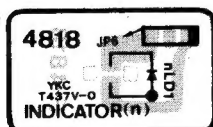


Parts List

Parts No.	Stock No.	Description
ΔkR47	46229400	220Ω 1/2W N.I.R.
oS5	48156600	Push SW., SPEAKERS
oJ1	46579600	Jack, PHONES

2-8. F-4818 POWER/PROTECTOR Indicator Board

Component Side

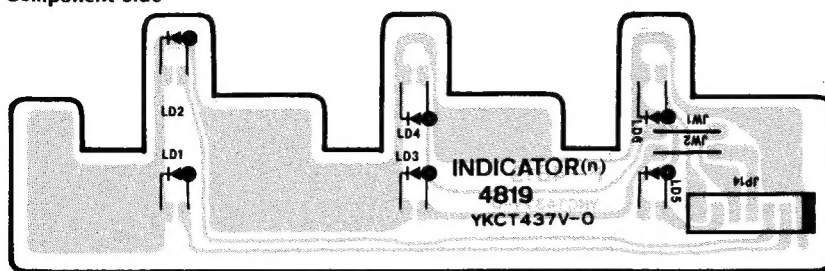


Parts List

Parts No.	Stock No.	Description
nLD1	46169300	LED SEL1210S, Protector

2-9. F-4819 Input Indicator Board

Component Side

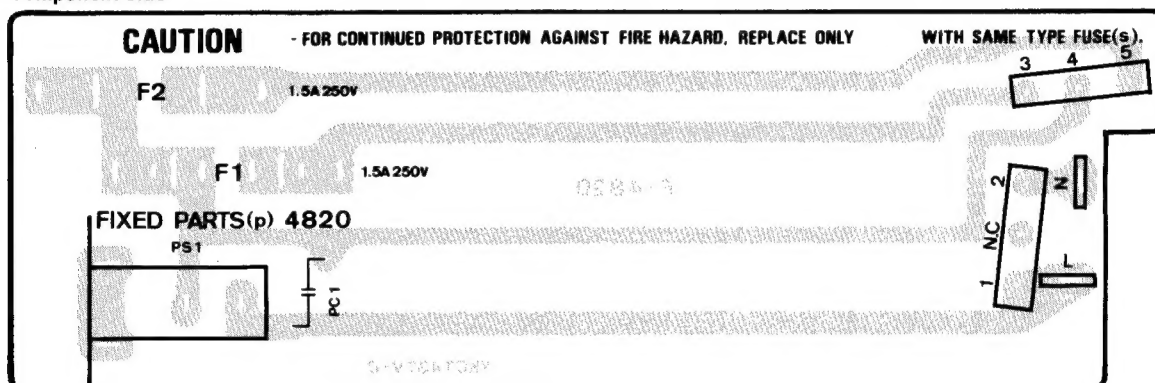


Parts List

Parts No.	Stock No.	Description
•LED		
nLD2	48076100	SEL2413E, TUNER
nLD3	48076100	SEL2413E, CD
nLD4	48076100	SEL2413E, AUX
nLD5	48076100	SEL2413E, TAPE-1
nLD6	48076100	SEL2413E, TAPE-2
nLD7	48076100	SEL2413E, PHONO

2-10. F-4820 POWER SW. Board

Component Side

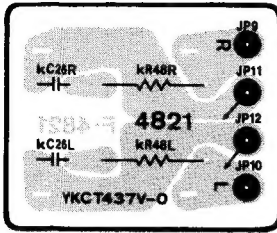


Parts List

Parts No.	Stock No.	Description
△pC1	46425800	0.01μF 400V C.C.
△pF1	07188500	1.5A 250V Fuse (XX)
△	07188800	3A 250V Fuse (UL,CSA)
△	07184800	1.25A 250V Fuse (EU,BS)
△pF2	07188500	1.5A 250V Fuse (XX 120V)
△pS1	46360300	Push SW., POWER (XX,UL,EU,BS)
△	48064900	Push SW., POWER (CSA)
△pZ1	38005700	Power Supply Cord (XX,UL)
△	48188000	Power Supply Cord (CSA)
△	38004500	Power Supply Cord (EU)
△	38004300	Power Supply Cord (BS)

2-11. F-4821 SPEAKERS Terminal Board

Component Side

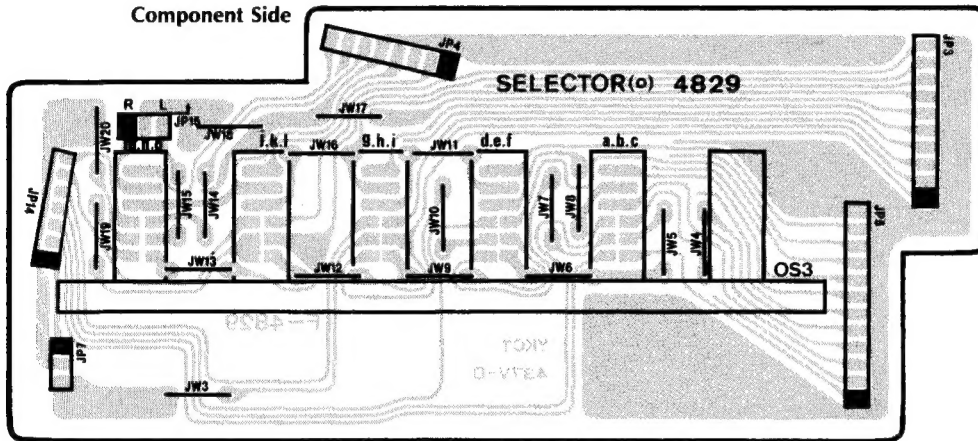


Parts List

Parts No.	Stock No.	Description
oZ6	48148900	4P Terminal Board, SPEAKERS

2-12. F-4829 INPUT SELECTOR SW. Board

Component Side

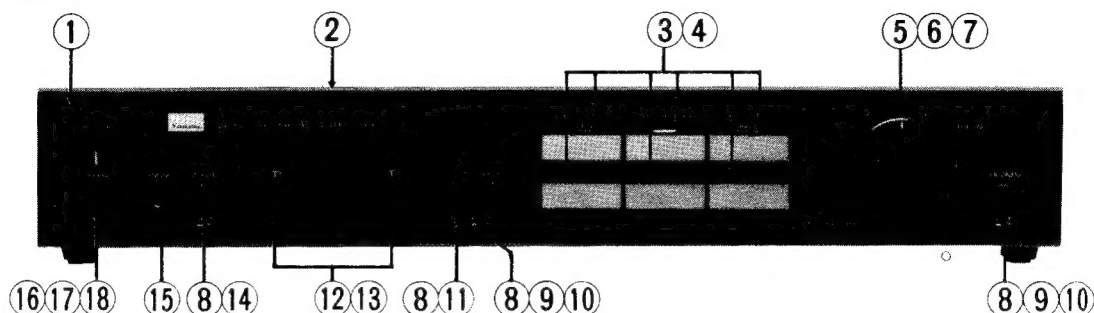


Parts List

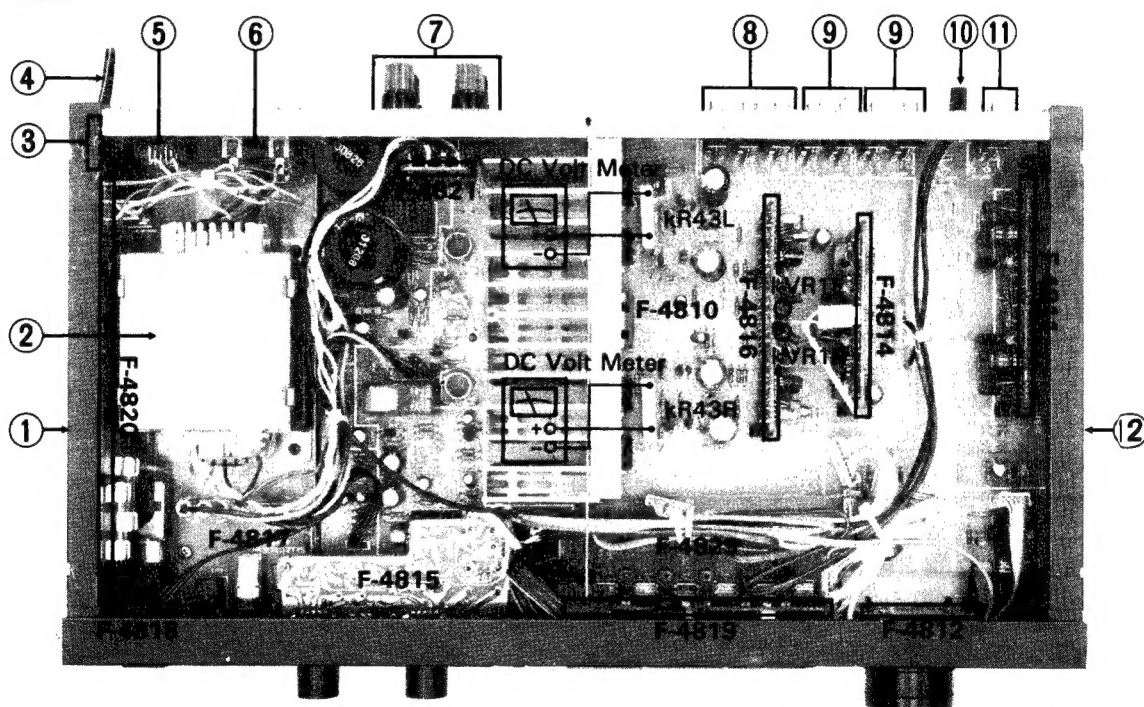
Parts No.	Stock No.	Description
oS1	48149300	Push SW., INPUT SELECTOR

3. OTHER PARTS

3-1. Front View



3-2. Top View



Parts List <Front View>

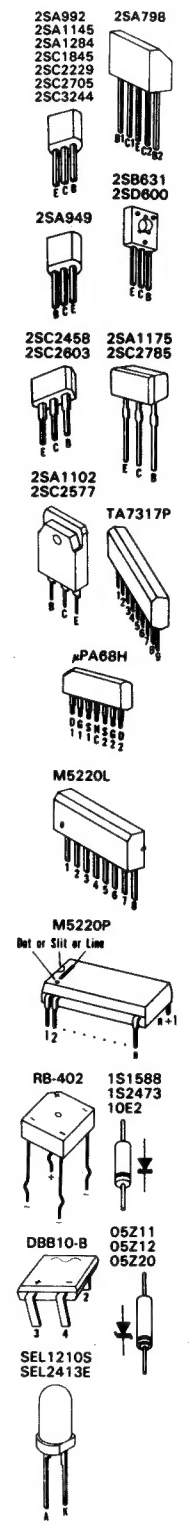
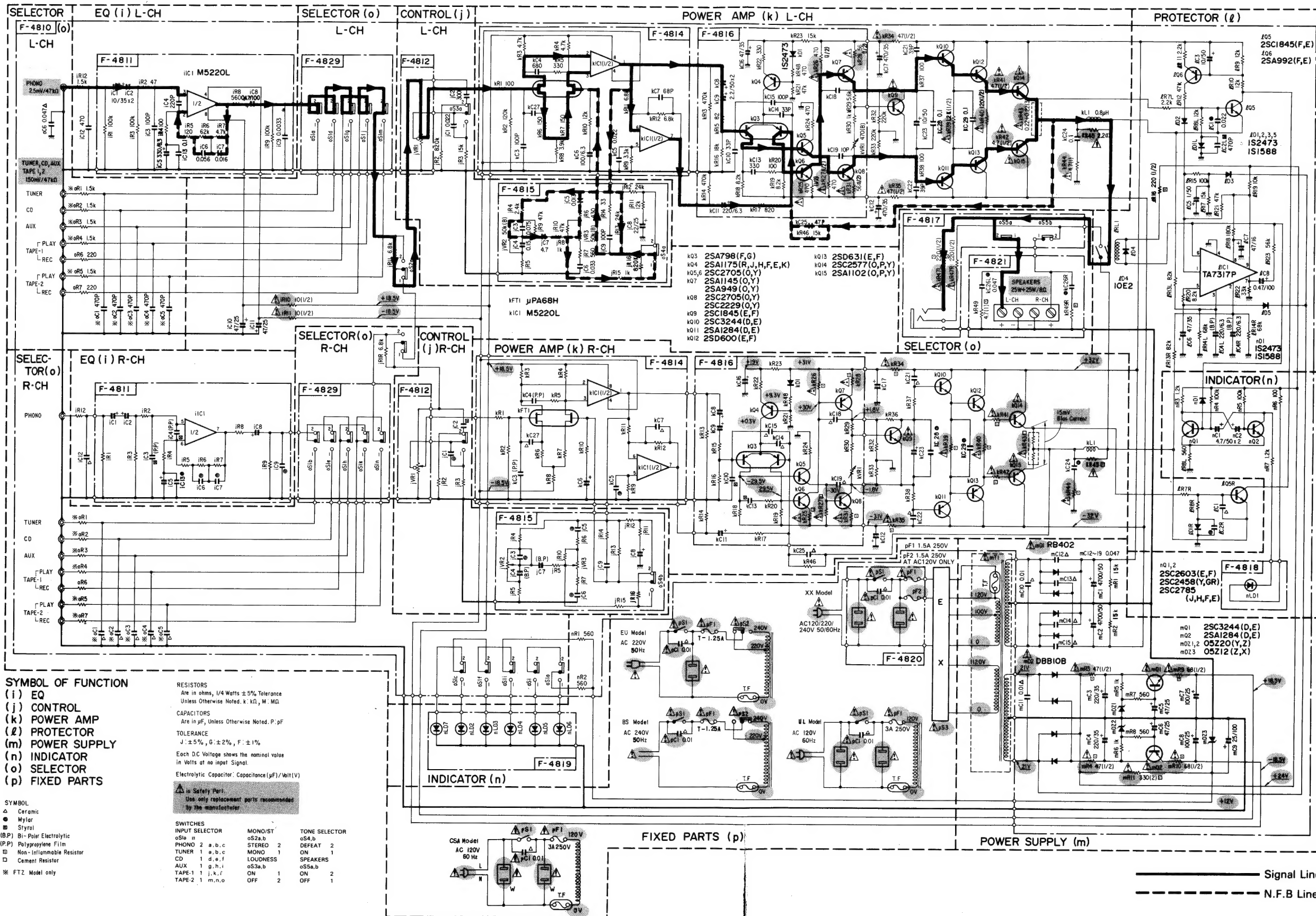
Parts No.	Stock No.	Description
1	47707300	Front Panel Ass'y
2	47708300	Bonnet
3	48149300	Push SW., INPUT SELECTOR
4	47637400	Joint Shaft 2
5	47706910	Knob, VOLUME (Left)
6	47707000	Knob, VOLUME (Right)
7	46555900	150k Ω \times 2 V.R., VOLUME
8	47636300	Knob, LOUDNESS, MODE, TONE, SPEAKERS
9	47149200	Joint Shaft, LOUDNESS, MODE
10	46361000	Push SW., LOUDNESS, MODE
11	46365500	Push SW., TONE
12	47658500	Knob, BASS, TREBLE
13	48149400	50k Ω (C) \times 2 V.R., BASS, TREBLE
14	48156600	Push SW., SPEAKERS
15	46579600	Jack, PHONES
16	47633700	Knob, POWER
17	47637300	Joint Shaft 1, POWER
△ 18	46360300	Push SW., POWER (XX,UL,EU,BS)
△	48064900	Push SW., POWER (CSA)

Parts List <Top View>

Parts No.	Stock No.	Description
1	47315610	Side Panel Ass'y (L)
△ 2	15018901	Power Transformer (XX)
△	15018902	Power Transformer (UL,CSA)
△	15018905	Power Transformer (EU,BS)
3	47157300	AC Cord Cover
△ 4	46407700	Power Supply Cord (XX,UL,CSA)
△	38004500	Power Supply Cord (EU)
△	38004300	Power Supply Cord (BS)
△ 5	48062100	Slide SW., VOLTAGE SELECTOR (XX)
△	46739400	Slide SW., VOLTAGE SELECTOR (EU,BS)
△ 6	48076600	AC Outlet (XX,UL,CSA)
△	46161000	AC Outlet (EU)
7	48148900	4P Terminal, SPEAKERS
8	46363900	6P Terminal Board, PLAY-1, PLAY-2, REC-2
9	46363800	4P Terminal Board, REC-1, AUX CD, TUNER
10	22301510	Ground Terminal
11	46438100	2P Terminal Board, PHONO
12	47314820	Side Panel Ass'y (R)

4. SCHEMATIC DIAGRAM

Design and specifications subject to change without notice for improvement.
La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



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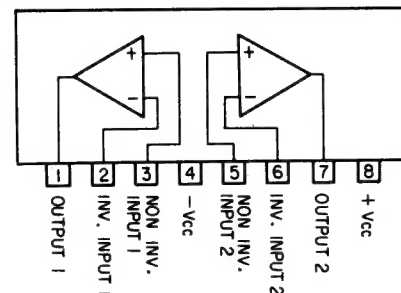
5. ADJUSTMENT (See Top View on page 9)

- Note:** 1) Master Volume Minimum
 2) Room Temperature 18°C~28°C (65°F~83°F)
 3) For this adjustment, run the unit for more than 5 minutes after the power is switched ON.
 4) Before turning ON power switch, set kVR1 on F-4810 to center position.

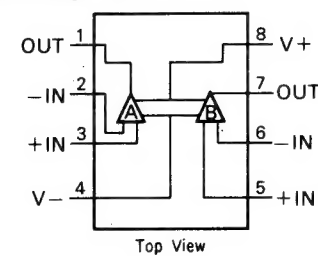
STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	Bias Current Adj. L-CH	Between emitters of power transistors (kQ14 & kQ15) (Across kR43L)	kVR1, L-ch (F-4816)	DC 15mV ± 3mV	
2.	Bias Current Adj. R-CH	Between emitters of power transistors (kQ14 & kQ15) (Across kR43R)	kVR1, R-ch (F-4816)	DC 15mV ± 3mV	

6. INTERIOR BLOCK DIAGRAM OF IC

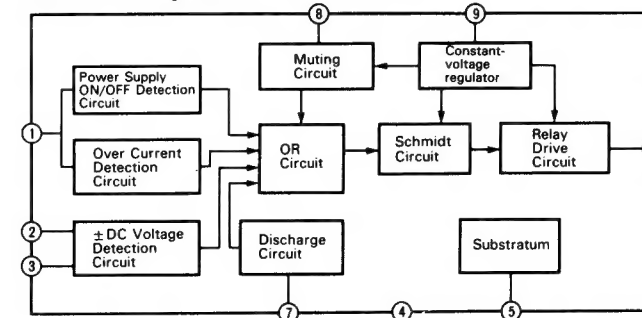
•M5220L (OP Amp. IC)



•M5220P (OP Amp. IC)

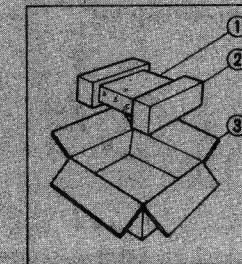


•TA7317P (Speaker Protector IC)



7. PACKING LIST

Parts No.	Stock No.	Description
1	07599500	Vinyl Cover
2	07827220	Styrofoam Packing
3	47708800	Carton Case



8. ACCESSORY LIST

Stock No.	Description
46960900	Operating Instruction

Sansui

SANSUI ELECTRIC CO., LTD.
 SANSUI ELECTRONICS CORPORATION
 SANSUI ELECTRONICS (U.K.) LTD.
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(SM1-209)

Printed in Japan (N40120M) <Stock No. 36499300>